



Missouri University of Science and Technology
Scholars' Mine

International Conference on Case Histories in
Geotechnical Engineering

(1993) - Third International Conference on Case
Histories in Geotechnical Engineering

31 May 1993 - 06 Jun 1993

Table of Contents - Vol. II

Multiple Authors

Follow this and additional works at: <https://scholarsmine.mst.edu/icchge>

 Part of the [Geotechnical Engineering Commons](#)

Recommended Citation

Authors, Multiple, "Table of Contents - Vol. II" (1993). *International Conference on Case Histories in Geotechnical Engineering*. 6.

<https://scholarsmine.mst.edu/icchge/3icchge/3icchge-contents/6>

This Article - Conference proceedings is brought to you for free and open access by Scholars' Mine. It has been accepted for inclusion in International Conference on Case Histories in Geotechnical Engineering by an authorized administrator of Scholars' Mine. This work is protected by U. S. Copyright Law. Unauthorized use including reproduction for redistribution requires the permission of the copyright holder. For more information, please contact scholarsmine@mst.edu.

Table of Contents

Volume I

Session I

"Case Histories of Foundations"

	Page No.
M. H. Hussein J. M. Sheahan (USA)	Uplift Capacity of Driven Piles From Static Loading Tests 1.02 1
Dinesh Mohan (India)	Failure of a Shipping Berth 1.04 13
Zu Ming Jiang Wei Feng Zhao (China)	Researches in the Testing Method of Dynamic Interaction of Pile-Soil System Model and Its Calculation of Dynamic Characteristics 1.05 17
M. M. Reyad (Egypt)	Inconvenient Foundation System in Problematic Soil 1.07 21
P. Dunlop R. E. Sandiford D. R. Erali (USA)	Instrumented Load Test on a Bent Pile 1.08 25
J. C. Chang J. Y. Wu (China)	Geocomposites for Foundation Uplift Pressure Control in Impermeable Soils 1.09 31
W. A. Trow T. Orpwood R. L. Carrington (Canada)	Monitoring of Load and Distribution in Long Caissons Under 49 Story Structure 1.10 35
T. Z. Rao (China)	Case History of a Bridge Foundation 1.12 43
K. J. Osinubi (Nigeria)	Settlement of Multi-Story Buildings on Sand Fills 1.13 49
Jacek K. Leznicki Robert G. Gaibrois Melvin I. Esrig (USA)	Tribeca Tower Foundation System 1.14 53
T. Z. Rao (China)	Case Histories of Bored Pile Foundations 1.16 61
S. K. Jain (USA)	Case Histories: Geology, Value Engineering and Deep foundations in New York Area 1.18 67

K. M. Lee X. Yi R. K. Rowe (Canada)	Ground Movements and Pore Pressure Variation Caused by EPB Shield Tunneling - Shanghai (China) Sewage Tunnel 1.19	73
M. N. Fatani A. M. Khan (Saudi Arabia)	Foundations on Salt Bearing Soils of Jizan 1.20	79
A. Verghese Chummar (India)	Failure of Foundation Systems Using Stone Columns 1.21	85
M. N. Viladkar Swami Saran (India)	Reanalysis of a Vacuum Distillation Unit Foundation 1.22	89
Devendra Sharma (India)	Foundation Strengthening and Protective Measures for Sri Sangameshwar Temple at Kudal Sangam, Karnataka 1.23	93
J. R. Davie M. R. Lewis L. W. Young (USA)	Uplift Load Tests on Driven Piles 1.24	97
J. K. Jain Rajesh Bhargava A. K. Saxena (India)	Foundations Failures of Bridges and Geotechnical Investigations 1.26	105
U. N. Sinha (India)	Foundation Problems at a Residential Complex - A Case History 1.27	109
O. M. Alsamman J. H. Long (USA)	Prediction of Drilled Shafts Axial Capacities Using CPT Results 1.30	113
H. Ochiai K. Matsui S. Adachi (Japan)	Evaluation of Bearing Capacity of Friction Pile Based on Uncertainty of Soil Properties 1.33	119
Hou Shi--Tao Ding Xiao-Xue Bai Zai-Cheng (China)	Engineering Illustrations of Correcting Building Inclination by Stress 1.34	127
H. R. Viswanath (India)	Rigid vs. Flexible Pile Caps: Case Study for 235 m. Delhi T.V. Tower 1.35	133
Gary Seider (USA)	Eccentric Loading of Helical Piers™ for Underpinning 1.37	139
A. J. Lutenegger G. A. Miller (USA)	Behavior of Laterally Loaded Drilled Shafts in Stiff Soil 1.38	147

G. A. Miller A. J. Lutenegeger (USA)	Analysis of Small Pipe Piles Using the Field Vane 1.39	153
R. J. Jardine B. M. Lehane P. A. Gildea (England) P. R. Smith (Hong Kong)	Bearing Capacity and Load-Displacement Behavior of Rigid Pads on Soft Sensitive Clay 1.40	161
D. E. Daniels V. A. Modeer M. C. Lamie (USA)	Foundation Selection and Construction Performance - Clark Bridge 1.41	167
H. Senapathy J. R. Davie M. R. Lewis (USA)	Variation in Capacities of Different Pile Types Under Similar Soil Conditions 1.42	191
A. Tejchman K. Gwizdala (Poland)	Dynamic and Static Analysis and in situ Investigation of Vibro-Fundex Piles 1.43	197
Donald A. Benvie Jeffrey B. Kirby (USA)	Caisson Foundations for Cellular Telephone Monopoles 1.44	201
J. G. Dong Y. P. Qian G. Lu D. Y. Huang (China)	Field Study of Foundation of Extension Project to Tongji University Library in Shanghai 1.46	209
G. L. Panozzo F. H. Kulhawy F. C. Bauhof A. J. O'Brien (USA)	Testing of Drilled Shafts Socketed Into Limestone 1.47	213
A. Sridharan B. R. Srinivasa Murthy (India)	Remedial Measures to a Building Settlement Problem 1.49	221
H. B. Qian (China)	Successful Design of Expansive-Soil Foundation for a Large Modern Chemical Fertilizer Plant 1.51	225
Ke Zunjing Shan Mei (China)	Crack Damage and Treatment of Low House on Expansive-Contractive Red Clay 1.52	229

K. R. Darye J. R. Patil (India)	Case Histories of Pile Foundations in Bombay Region 1.54	235
M. A. El-Sohby A. M. Elleboudy (Egypt)	Damage of a Broadcasting Station Due to Shrinkage of Soil 1.56	243
K. R. Saxena A. S. R. Swamy R. S. Murthy (India)	Foundation Problems in a Developing City 1.57	247
M. Gryczmanski J. Sekowski (Poland)	Damages to a Five-Storied Building Founded Over Peat Layer 1.58	251
Yudhbir P. K. Basudhar (India)	Stability of a Mast Foundation: A Case Study 1.61	257
A. Rico J. M. Orozco J. L. León (Mexico)	Friction Pile Foundations Subject to Regional Subsidence 1.64	263
T. Amirsoleymani (Iran)	The Performance of Structures After Imposed Rotations 1.65	273
S. Chandra (India) Md. I. Hossain (USA)	Prediction and Observation of Pore Pressure Due to Pile Driving 1.66	279
V. S. Raju R. Sundaravadivelu V. G. Idichandy (India)	Failure of Offshore Concrete Piles During Construction 1.69	285
A. S. R. Rao Swami Saran S. C. Handa G. Ramasamy M. N. Viladkar (India)	Taj Mahal - An Appraisal of Foundation Performance 1.70	291
V. D. Miglani (India)	Soil-Structure Interaction and Aseismic Design of a Stadium Building 1.71	295
Igor Soric Zeljko Sokolic Darko Zvornik (Croatia)	The Analysis of Local Subsoil Failure 1.72	303

M. P. Luong (France)	Safety Evaluation of Overhead Line Towers 1.73	307
Hai-Chen Hsu (China)	Case History of Foundation Design for 50000 m ³ Oil Tank 1.75	313
M. Aoki M. Maruoka N. Sahasi Y. Okamura Y. Ikuta (Japan)	A Case History of Raft Foundation Behavior for a Large-Scaled Building Complex 1.76	315

Session II

"Case Histories of Slopes, Dams and Embankments"

L. H. Mejia R. W. Boulanger (USA)	Calibrated Dynamic Response Analysis of Stafford Dam 2.02	321
B. F. Ulrich (USA)	Consolidation Study of an Active Tailings Pond 2.04	329
J. A. Rodriguez C. J. Poran (USA)	Earthquake Induced Landslides in Colombia 2.05	337
William A. Trow Richard Carrington Timothy G. Orpwood (Canada)	Case History - Monitored Settlement of 32m Thick Compacted Fill 2.06	345
M. S. S. Almeida F. A. B. Danziger M. C. F. Almeida S. R. L. Carvalho I. M. S. Martins (Brazil)	Performance of an Embankment Built on a Soft Disturbed Clay 2.08	351
Gerald P. Raymond (Canada)	Performance of a Low Embankment on a Soft Soil Deposit 2.09	357
J. C. Ruhl (USA)	Overview of Geotechnical Issues Involved in the Olmsted Locks and Dam Project 2.11	365
P. P. Procházka J. Vacek (Czechoslovakia)	Development of Landslide at CSA-Open Mine in Bohemia 2.12	373
Wang Jianguo (China)	Time Prognosis of Landslide Based on Unstable Creep 2.14	377

S-C. R. Lo S-Q. Li (Australia)	Behavior of a Breakwater on Soft Sediments - Failure and Success 2.15	383
D. T. Mooney J. J. Bowders, Jr. (USA)	Evaluation and Remediation of a Small Landslide in Colluvium 2.17	389
N. Yasuda M. Itoh T. Fujisawa (Japan)	Analyses of Behaviors of Embankment Dams 2.18	393
J. R. Deutekom R. J. Termaat (The Netherlands)	Case History of an Uplift Problem 2.19.....	401
J. L. Santiago T. Barrera M. Pastor (Spain)	Large Scale Instrumented Test Embankment on Uranium Tailings 2.21	405
J. Lindenberg A. Plooster J. P. F. M. Janssen (The Netherlands)	Geotechnical Prediction and Performance of Eastern Scheldt Storm Surge Barrier 2.22	411
F. Gonzalez-Valencia S. Herrera-Castaneda (Mexico)	The Agua Prieta Powerhouse Slope Instability 2.23	417
A. B. Fourie G. I. McPhail (South Africa)	Stabilization of a Tailings Dam by De-Watering 2.27	425
Bujang B. K. Huat Faisal Hj. Ali (Malaysia)	Pile Embankment on Soft Clay: Comparison Between Model and Field Performance 2.28	433
I. Stanculescu A. Chirica I. I. Stanculescu E. Georgescu (Romania) C. Athanasiu (Norway)	Full Scale Field Test on a Slope Progressive Failure 2.29	437
S. N. Al-Saadi (Iraq) S. H. Al-Jassar (England)	Rock Slides Along Haibat Sultan Road, N. Iraq 2.30	443

N. H. Wade G. W. Davies (Canada)	Ground Anchors Stabilize Highway Bridge Abutments 2.31	451
P. Jagannatha Rao (India)	Landslide Management and Control in Himalayas 2.34	457
D. C. Cowherd K. C. Miller V. G. Perlea (USA)	Seepage Through Mine Tailings Dams 2.35	463
M. Werno B. Dembski B. Juskiewicz-Bednarczyk Z. Mlynarek W. Tschuschke (Poland)	Tailing Dam Zelazny Most Environmental Hazard 2.36	469
F. Colleselli G. Cortellazzo (Italy)	Foundations for Large Embankments 2.37	473
Ke Zunjing Fan Qiuyan Wang Guanping Wang Xiangfan (China)	Chinese Expansive Soil Canal Project 2.40	481
D. S. Yang U. Luscher I. Kimoto S. Takeshima (USA)	SMW Wall for Seepage Control in Levee Reconstruction 2.41	487
S. Gangopadhyay (India)	Geotechnical Problems of Dam Sites and Their Solution with Reference to the Projects of Eastern India 2.43	493
R. K. Bhandari K. Jeyatharan A. Raviskanthan (Sri Lanka)	Dynamics of Rockfalls in Sri Lanka and Landslide Hazards 2.44	499
B. Ramachandran (India)	Distress in Hirakud Dam, Orissa, India - Possible Causes and Remedial Measures 2.47	505
Ge Guangbin Ke Zunjing (China)	Slope Engineering of Expansive Highway Cut 2.48	511
R. B. Dodds J. P. Burak K. D. Eigenbrod (Canada)	Nipigon River Landslide 2.49	517

R. E. Hunt S. M. Miller V. L. Bump (USA)	The Forest City Landslide 2.54.....	525
---	-------------------------------------	-----

Session III "Case Histories of Geotechnical Earthquake Engineering"

A. S. Al-Homoud (Jordan) R. V. Whitman (USA)	Comparison Between Finite Element Predictions and Results from Dynamic Centrifuge Tests on Tilting Gravity Wall Retaining Dry Sand 3.01	535
J. D. Frost J. L. Chameau (USA) F. A. Reyna (Argentina) P. Karanikolas (Greece)	Performance of Fill Soils During the Loma Prieta Earthquake 3.04	541
T. Kagawa M. A. Al-Khatib (USA)	Earthquake Response of 30-Story Building During the Loma Prieta Earthquake 3.05	547
H. Y. Loo (China)	Numerical Estimate of Tangshan Earthquake Damage 3.09	555
P. Ortigosa E. Retamal (Chile) R. V. Whitman (USA)	Failures of Quay Walls during Chilean Earthquake of March 1985 3.10	565
Takaaki Konno Yoshio Suzuki Akira Tateishi Kenji Ishihara Kinji Akino Setsuo Iizuka (Japan)	Gravelly Soil Properties by Field and Laboratory Tests 3.12	575
S. Tani (Japan)	Earthquake Damage to Fill Dams 3.13	595
A. K. Singh K. G. Bhatia (India)	Seismic Qualification of Mechanical Systems 3.14	599
Gregory L. Hempen James L. Keim James L. Mayo (USA)	Earthquake-Induced Parameter Automation 3.16	603

K. W. Tsai (USA) C. K. Chou J. C. Chang W. H. Wang (China)	Jet Grouting to Reduce Liquefaction Potential 3.17609
M. K. Yegian V. G. Ghahraman (USA) M. A. A. Nogole-Sadat H. Darai (Iran)	Liquefaction Case Histories from 1990 Manjil, Iran, Earthquake 3.18613
D. C. Cowherd K. C. Miller V. G. Perlea Shamsher Prakash (USA)	Evaluation of Liquefaction Potential of Coal Slurry 3.20619
M. Zaré (Iran)	Macrozonation of Landslides for the Manjil, Iran 1990 Earthquake 3.23625
John G. Z. Q. Wang (China)	Ground Waving and its Damaging Effect 3.28631
R. W. Boulanger J. D. Bray R. B. Seed (USA)	Response of Two Dams in the 1987 Whittier Narrows Earthquake 3.29635
T. P. Stoutjesdijk (The Netherlands)	Liquefaction Study Eastern Scheldt Foreshore 3.31643

Session IV "Case Histories of Man-Made Vibrations"

M. R. Lewis J. R. Davie (USA)	Vibrations Due to Pile Driving 4.01649
Guang-Yun Gao Xian-Jian Yang (China)	Combined Isolation Foundation by Elastic Base Plate and Ground Barriers 4.04657
M. R. Svinkin (USA)	Analyzing Man-Made Vibrations, Diagnostics and Monitoring 4.06663
A. Bodare S. Erlingsson (Sweden)	Rock Music Induced Damage and Vibration at Nya Ullevi Stadium 4.07671

L. T. Long (USA)	Measurements of Seismic Road Vibrations 4.10.....	677
J. Bencat (Czecho-Slovakia)	Investigation of Traffic Induced Ground Vibration by Random Process Theory 4.11	681
R. A. Slabbaert J. P. Lee J. A. Bohinsky (USA)	Correlation of Foundation Vibration Results 4.14	685
Author Index		xv*

Volume II

Session V

"Case Histories of Retaining Structures and Deep Excavations"

	Page No.
Swami Saran I. N. Khan (India)	Studies on a 4.0m High Reinforced Earth Wall 5.03689
Mark Tamaro Pablo Lopez Sibel Pamukcu (USA)	Prediction of Structural Slurry Wall Behavior 5.06 695
D. W. Hohmeyer (USA)	Augercast Pile Retaining Walls 5.08703
M. U. Ergun M. S. Nalçakan (Turkey)	Dewatering of a Large Excavation Pit by Wellpoints 5.12707
T. Schick S. R. Neely A. A. Joseph (USA)	Reinforced Earth® Wall Supported by an Unstable Foundation 5.13 713
T. Edstam L. Jendeby (Sweden)	Behavior of a Braced Sheet Pile Wall in Soft Clay 5.14717
Richard Rodgers Michael Majchrzak (USA)	An Unsuccessful Urban Deep Excavation in Soft Soils 5.15725
Robin M. Lim Michael Majchrzak (USA)	"Unconventional" Drilled Pier Underpinning 5.16731
Edwin P. Woo Cetin Soydemir Thomas K. Liu (USA)	Performance of a Pier Consisting of Three Sections 5.18739
Wanchai Teparaksa (Thailand)	Behavior of Deep Excavation Using Sheet Pile Bracing System in Soft Bangkok Clay 5.21745
Yasuo Toyosawa Noriyuki Horii Satoshi Tamate (Japan)	Analysis of Fatal Accidents Caused by Trench Failure 5.22751
M. M. Rahimi C. Karwaj P. K. Deb (Australia)	Failure of Sewerage Mains Constructed in Soft Estuarine Deposit 5.23759

J. D. Bray R. J. Deschamps R. S. Parkison Ad. J. Augello (USA)	Braced Excavation at the NIPSCO Bailly Station Power Plant 5.25	765
J. R. Graham R. W. Humphries J. M. Fuller G. M. Elliott (USA)	Pressure Relief Tunnel System at US22/SR7 Interchange, OH 5.26	775
Pichit Jamnongpipatkul Yongyuth Taesiri Voranit Charumas (Thailand)	Reinforced Soil Structure Test Sections in Mountainous Terrain 5.30	781
R. E. Olson (USA)	Failure of a Twenty-Foot High Retaining Wall 5.31	791
R. E. Olson R. E. Heuer (USA)	Failure of a Large Circular Excavation 5.32	799
Wolfgang Roth Anthony Stirbys Corbin de Rubertis Richard Ellis (USA)	Performance of a Braced Excavation in Siltstone 5.33	807
H. Abedi T. G. Porter G. H. Lien J. A. Ramos (USA)	Behavior of Braced Sheetpile Excavation in Detroit Clay 5.35	817
Ch. Marangos (Greece)	Underpinning of a Tilted Building, A Case History 5.36	823
Noriyuki Horii Shigeo Hanayasu Yasuo Toyosawa Satoshi Tamate Takakazu Maruyasu (Japan)	A Case History of the Collapse Accident of a Temporary Earth Support Structure 5.39	827
Jeen-Shang Lin (USA) J. G. Deng (China)	Predictions of the Behavior of a Deep Braced Excavation 5.40	831
Z. C. Moh R. N. Hwang (China)	Earth Pressures on Walls of a Deep Excavation 5.44	837

P. M. Byrne T. Srithar C. B. Kern (Canada)	Measurements and Predictions on the Elkhart Creek Culvert 5.45	843
G. Castellanos S. Sedano (Mexico)	Large Excavation Behavior at Petacalco, Mexico 5.46	853
B. H. Lien H. Abedi J. A. Ramos T. G. Porter (USA)	Performance of a Semi-Rigid Braced Excavation in Soft Clay 5.48L	861
R. Pöttler (Germany)	Cut and Cover at Landrückentunnel North 5.53L	867
A. B. Parreira R. F. Azevedo (Brazil)	Geotechnical Performance of a Tunnel in Soft Ground 5.55	871

Session VI "Case Histories of Geological Engineering and Rock Engineering"

Zhu Ruigeng Xia Yuanyou Lu Wenxing (China)	Prediction-Forecast and Slip-Control for One Slope 6.01	877
Xia Yuanyou Zhou Hongwen (China)	A New Monitoring Method and Its Application 6.02	883
Indra Prakash J. S. Sanganeria (India)	Geotechnical Problems of the Underground Excavation in the Deccan Basalts of Sardar Sarovar (Narmada) Project, Gujarat, India 6.04	889
T. Makedon G. Dimopoulos C. Marangos (Greece)	Diversion Tunnel of a Hydroelectric Plant on Nestos River (Greece). A Case Study 6.07	895
J. C. Chern Y. L. Chang C. C. Lin (China)	Performance of a Large Diameter Tunnel in Weak Rocks 6.08	903
M. A. El-Sohby M. A. Bahr (Egypt)	Impact of Environmental Conditions on a Structural Damage 6.09	909

Manoj Verman J. L. Jethwa R. K. Goel (India)	Cavern Wall Support Requirements in a Hydro-Electric Project 6.13915
Minh D. Nguyen S. Braham J. G. Durup (France)	Surface Subsidence Over Deep Solution Mined Storage Cavern Field 6.15.....923

Session VII

"Case Histories of Soil Improvement, Grouting, Geosynthetics, Dynamic Compaction, Vibroflotation, Blasting and other Methods"

K. D. Weaver T. R. Kolbe S. J. Klein (USA)	Foundation Grouting for the Forks of Butte Powerhouse 7.01931
Nathan L. Whetten (USA)	Dynamic Compaction Prepares Supermarket Site 7.02937
A. V. S. R. Murty Sudhir Mathur S. K. Soni K. Nageswara Rao (India)	Use of Geotextiles in Low Volume Roads - A Case Study 7.03942
H. R. Sreekantiah (India)	Vibroflotation for Ground Improvement - A Case Study 7.04.....949
Bang W. Shin Sun W. Kim (Korea) Eun C. Shin Byung C. Yeo Raghunath Dass (USA)	Case History of Soil Improvement for a Large-Scale Land Reclamation 7.06954
Wang Yi-Ji Zheng Jun-Jie Cui Ji-Ming (China)	Case Histories of Poor Quality Contingency of Foundation Soil Improvement of 50,000 Kiloliters Oil Storage Tank 7.07961
S. Kokkamhaeng (Thailand)	Restoration of Road Embankment on Soft Bangkok Clay by Wet Jet Mixing Method 7.09.....967
L. D. Johnson A. D. Pengelly (USA)	Chemical and Lime Stabilization of Expansive Clay 7.10971

Jiachen Wang Yihui Qiu Meiyun Shi Aizhen Liu (China)	Two Case Histories of Alkali Liquid Method to Reinforce Collapsible Loess Deposit 7.11977
X. R. Zhu Q. Y. Pan K. H. Xie (China)	Soft Clay Ground Improvement of Ningbo International Airport 7.12983
F. Haji Ali B. Kim Huat (Malaysia)	Performance of Prefabricated Vertical Drains in Improvement of Malaysian Soft Marine Clay 7.13989
K. Peter Yu (USA)	Site Stabilization in Hurricane Region 7.14995
James F. Cloonan (USA)	Port of Wilmington Terminal Soil Improvement 7.151007
T. H. Bedenis (USA)	Surcharging of Organic Silt Using Prefabricated Vertical Drains 7.161015
Kou-Roung Chang Curt Basnett John Carter (USA)	Foundation Soil Preparation for Landfills in Karst Terrain 7.171021
Jonathan D. Blanchard Kenneth M. Clements (USA)	Site Improvements with Stone Columns in Stratified Silty Soils 7.181027
H. Abedi J. Risitano D. Yamane K. Chin (USA)	Performance of Wick Drains in Boston Blue Clay 7.191035
K. Chen (Australia) H. Liu (China)	The Compaction Effects of Vibroflotation Method on a Weak and Liquefiable Silt 7.221039
Yoshio Wakame Masato Majima (Japan)	Soil Improvement Method Using Low Strength Pile with Permeability 7.231045
M. Krajcer I. Muhovec J. Pranjić (Croatia)	Ground Anchor Bearing Capacity Improvement by Blasting in Bore-Hole 7.241051

T. Matsui H. Nakajima T. Nagano T. Hosoi Y. Fukuda K. Hayashi (Japan)	Field Measurements of a Diaphragm Wall Foundation 7.28	105
S. Kesavanathan D. W. Kozera (USA)	Instrumented Caissons at the IBM Building, Baltimore 7.30	106
Jean C. Dumas Nelson F. Beaton Jean-François Morel (Canada)	Dynamic Compaction Using Select Fill Displacement Methods 7.31	106
Sasumu Yasuda Hiroshi Suzuki Hideotoshi Takemoto Kohi Hayashi Kazuo Saito Naomi Ine (Japan)	Soil Improvements of an Inhomogeneous Reclaimed Ground 7.35	107
Shiming Wu Yunmin Chen Wei Feng (China)	Improvement of Soft Clay for 50000 M ³ Oil Storage Tank 7.36	108
P. Kameswara Sarma J. R. Somayazulu K. Rama Sastri (India)	Granular Trenches and Stone Columns as Ground Improvement Techniques - Case Histories of Field Applications 7.37	108
D. L. Shah A. V. Shroff (Late) Piyush V. Parikh (India)	Lining of Perennial Canals Under Flowing Conditions by Ulomat Grouted Mattress Technique 7.38	109
F. Colleselli P. Varagnolo (Italy)	Behavior of Direct Tower Foundation on Improved Soil 7.39	109
Carlos Blanco Bernardo Villegas Jose Sgambatti (Venezuela)	Compaction Columns Field Tests in Heterogeneous Soil Profile 7.40	110
Jie Han Shulin Ye (China)	Field Study of an Oil Tank on Stone Column Ground 7.41	111

K. C. Verma (India)	Soil Strengthening of Sutlej-Yamuna Link Canal Power Houses in Punjab, India 7.42	1119
S. K. Jain (USA)	Site Geology and Tunneling Methods 7.43	1125
G. Lefebvre T. V. Pavate (Canada)	A Study on Electro-Osmotic Consolidation of Soft Clays 7.44	1131

Session VIII **"Case Histories of Forensic Engineering 'Where Things Went Wrong'"**

E. M. Morales (Philippines)	Structural and Functional Distress Due to Slag Expansion 8.01	1139
E. Padilla (México)	Geotechnical Problems in the Construction of Underground Structures 8.03.....	1153
A. S. Stipho (Saudi Arabia)	The Impact of Rising Ground Water Level on the Geotechnical Behavior of Soil in Hot Climate Regions 8.05	1159
P. Jagannatha Rao (India)	Failure of Highway Fill and Investigation into its Causes 8.07	1165
W. N. Houston S. L. Houston K. D. Walsh (USA)	Investigation of Hole Caving Due to Vibrations 8.09	1169
S. J. Vitton R. C. Brown (USA)	Building Collapse Due to Shallow Trench Excavation 8.10	1177
Steven D. Scherer Ed Weiner (USA)	Underpinning and Leveling Settled Pipes and Channel 8.12	1183
W. A. Ericson L. P. Moore L. D. Madrid (USA)	Development on Florida's Phosphate Mine Lands 8.13	1189
N. N. Som R. B. Sahu (India)	Investigation of Collapse of an Apartment Building Due to Differential Filling 8.19	1197
K. Madhavan R. Janardhanam (USA)	Distress - Cause and Effect: A Diagnostic Study 8.21	1203

F. B. Slichter R. B. Peck (USA) F. D. Patton (Canada) I. Jernelius (Sweden) S. Balasubrahmanyam (India)	Geological Surprises at Itzehitezhi Dam, Zambia 8.22	1207
---	--	------

Session IX

"Case Histories of Geo-Economy-Adequate Geotechnical Solution"

L. P. Jedele T. H. Bedenis (USA)	Drilled Pier Load Capacity of Detroit Area Hardpan Using an Oserberg Load Cell 9.01	1213
B. M. Ghadiali T. P. Smirnoff K. N. Murthy (USA)	Use of Geotechnical Design Summary Report as a Management Tool for Resolving Disputes on Underground Construction Projects 9.02	1221

Session X

"Case Histories of Geotechnical and Hydrological Management of Solid, Hazardous and Low-Level Radioactive Wastes"

S. M. Testa D. L. Patton (USA)	Soil Remediation Via Environmentally Processed Asphalt (EPA) 10.01	1227
--------------------------------------	--	------

Session XI

"Case Histories of Geotechnical and Hydrological Remediation of Solid, Hazardous and Low-Level Radioactive Wastes"

John W. Anthony Robert J. Sterrett Greg Shepherd (USA)	Performance Evaluation of a Hydraulic Asphalt Concrete Pavement Capping a Hazardous Waste Site 11.01	1235
D. D. Genske H. Klapperich P. Noll (Germany)	Remediation of Contaminated Sites - Case Histories 11.07	1245

Session XII
**"Case Histories of Liner and Final Cover Systems for Solid, Hazardous and Low-Level
Radioactive Waste"**

		Page No.
S. Dutta (USA)	Modified Cover System for Hazardous Waste Landfills in Semi-arid Areas 12.01	1251
Clifford C. Knitter K. G. Haskell M. L. Peterson (USA)	Use of Low Plasticity Silt for Soil Liners and Covers 12.02	1255

Session XIII
"Case Histories of New Solutions to Traditional Geotechnical Problems"

M. R. Funkhouser K. P. Akins (USA)	MARTA East Line Tunnels Under I-285, Atlanta, Georgia 13.02	1261
K. Kogure (Japan)	An Analytical Prediction of Consolidation Settlement of Fibrous Peat Deposit Under Loading 13.06	1271
C. Mirza (Canada)	Case History of Aquifer Thermal Energy Storage (ATES) 13.07	1277
T. Shogaki M. Kaneko (Japan)	Evaluation of Consolidation Parameters by Graphical Method 13.08	1285
W. Akili M. H. El-Haddad (The Arabian Gulf)	Deteriorated Concrete Foundation on the Gulf Coast 13.11	1289
G. Esbelin N. T. Long P. Ursat (France)	Pneusol at the Bussang Pass 13.14	1295
B. L. Barnes L. D. Madrid W. A. Ericson (USA)	In-Place Stabilization of Waste Phosphatic Clays Using lime Columns 13.15	1301
P. W. Mayne B. S. Chen (USA)	Effective Stress Method for Piezocone Evaluation of S_u 13.16	1305
G. K. Burke G. T. Brill (USA)	Anchored Cutoff Structure Design and Construction 13.22	1313

State of the Art Papers

Page N

M. T. Davisson (USA)	Negative Skin Friction in Piles and Design Decisions SOA1	
George Gazetas (USA)	Seismic Response of Bridge Pile Foundations SOA 2	
M. Jamiolkowski R. Lancellotta C. Pepe (Italy)	Leaning Tower of Pisa - Updated Information SOA 3	13
I. K. Lee (Australia)	Analysis and Performance of Raft and Raft-Pile Systems SOA 4	13
G. A. Leonards (USA)	Case Histories of Earth Dams SOA 5	
W. D. Liam Finn (Canada)	Practical Studies of the Seismic Response of a Rockfill Dam and a Tailings Impoundment SOA 6	13
T. Yamanouchi N. Fukuda (Japan)	Design and Observation of Steep Reinforced Embankments SOA 7	13
James K. Mitchell Muhsung Chang Raymond B. Seed (USA)	The Kettleman Hills Landfill Failure: A Retrospective View of the Failure Investigations and Lessons Learned SOA 8	13
K. R. Massarsch (Sweden)	Man-Made Vibrations and Solutions SOA 9	13
Alfred Hendron, Jr. (USA)	Case Studies in Rock Engineering SOA 10	
David E. Daniel (USA)	Case Histories of Compacted Clay Liners and Covers for Waste Disposal Facilities SOA 11	14
Author Index		14

*See Volume III